Winter 3-1924

# Volume 33 - Issue 6 - March, 1924

Rose Technic Staff
*Rose-Hulman Institute of Technology*

# THE ROSE TECHNIC

SAINT PAT'S NUMBER.

Engineering in the Tropics

The Engineering Salesman

St. Pat Comes to Rose

VOL.. XXXIII Member of Engineering College Magazines Associated No. 6

*Ask your Librarian for Vol. 14 of Catalogue Studies to get complete information about the most economical and efficient use of explosives.*


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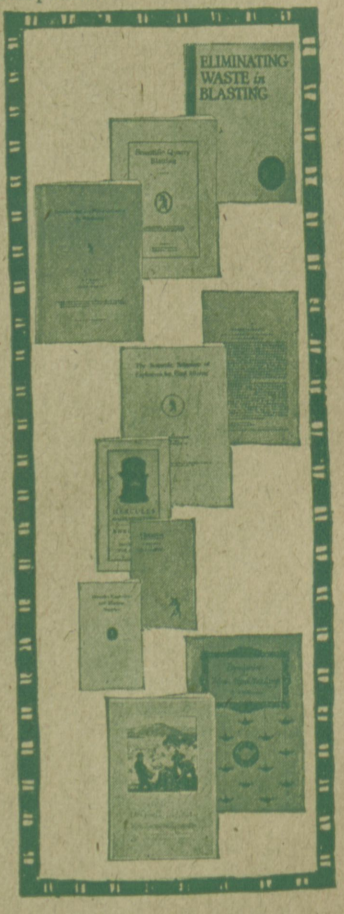


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Vol. XXXIII TERRE HAUTE, INDIANA, MARCH, 1924 No. 6

# THE TECHNIC

## MEMBER OF ENGINEERING COLLEGE MAGAZINES ASSOCIATED

PROF. A. E. KURTZ, Chairman.....Iowa State College, Ames, Iowa.

A monthly magazine published nine times from October to June, inclusive, by the student body and Alumni of Rose Polytechnic Institute.

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## *Summary of Contents*

MICHAEL FARADAY
1791-1867

Apprentice to an English bookbinder. Attracted the attention of Sir Humphrey Davy, becoming his assistant. "The greatest experimentalist of all times," says one biographer. The electrical unit Farad was named for him.

# "What's the use of it?"

Michael Faraday saw the real beginning of the age of electricity nearly a century ago when he thrust a bar magnet into a coil of wire connected with a galvanometer and made the needle swing.

Gladstone, watching Faraday at work in his laboratory, asked, "What's the use of it?" The experimenter jestingly replied, "There is every probability that you will soon be able to tax it." The world-wide use of electricity that has followed the Faraday discovery abundantly justifies the retort to Gladstone.

Faraday's theory of lines of force is constantly applied in the Research Laboratories of the General Electric Company in devising new electrical apparatus of which Faraday never dreamed. Every generator and motor is an elaboration of the simple instruments with which he first discovered and explained induction.

In 1880 the Edison Electric Illuminating Company, of New York City, installed a generator of 1200 lamps capacity, then considered a giant. By continuous experimentation and research the General Electric Company has developed generators 900 times as powerful as this wonder of forty years ago.

# GENERAL ELECTRIC

# ENGINEERING IN THE TROPICS

*By Hal B. Tyler, '19*

FOR the past four and a half years the writer has been connected with the Engineering Department of a company operating in several of the Central American Republics from Panama up to Guatemala. In this space of time he has naturally become more or less familiar with the problems which confront an engineer in the tropics from the construction, operation and maintenance points of view. Since conditions throughout the tropics of the Western Henisphere are much the same, the lessons learned and experience gained in one section or country apply equally well in another.

The three largest problems with which an engineer has to contend are labor, material and climate. The first two are problems common to any locality, but the last named presents a greater obstacle in the tropics than in any other place.

Almost all classes of common labor in the tropics, including negroes, natives of Spanish descent, and Indians, are very indifferent to the occupation commonly called "hard work." This is not only due to the enervating climate, but to the low standards of living maintained by the lower classes and the comparative ease of securing the simple native foods they require. They are all prone to spend their last nickel for native rum; and for several days after each pay trip, little real work is accomplished. The negroes do not drink as much as the natives and are much the best class of labor at disposal for working in the lowlands where the heat of the tropical sun is most intense. No race but the colored can withstand this heat and perform anything that approximates work. It is true that in several Central American countries where negroes are prohibited, one must depend on the white natives and Indians for labor, but they are very unsatisfactory, and work done with this class of labor is both expensive and slow. In the mountainous regions the climate is more temperate and there the native labor outshines the negro labor. The heat is less intense, and the natives have more pep and keep in better health, with the result that they can and do accomplish more work. There in the mountains the negro finds it much too cold for his tropical blood and will not stay, as a rule, either as a laborer or otherwise. To attempt to drive the laborers is folly and a waste of time and energy. In the first place they will not be driven, and secondly, the heat conditions are so severe that it is impossible to expect as much of them as in temperate climates. Their philosophy of life is expressed in a placard with red and gilt letters the writer once noticed on the wall of a native hut and which reads as follows: "The Lord Will Provide".

The material problem, that of getting the right kind and quality of material, tools and machinery on the job when one needs them is a source of constant worry to the engineer. Almost all lumber, and all steel and cement, including all classes of machinery, tools, and steel rails, must be imported from abroad, usually from the United States. From the time an order is placed to the date of receiving the goods, from two to four or even five months elapse. One can readily imagine the care with which an engineer must order his materials to complete any one piece of work Frequently he receives a call from his superiors to make an estimate on a certain piece of proposed construction. He must not only get up labor costs but figure on every piece of material and machinery needed. If a rush estimate is required he is likely to overlook important details in the last two items mentioned. If it is then decided to put the work through, he must immediately get his orders in to the States for everything needed to start the work and sufficient supplies for at least six months' operation. After several months the material will start to arrive, frequently the things needed first being the last to arrive. As for instance, rails have been received weeks before the ties, and no track could be laid at all until they arrived, of course. In ordering machinery one must depend entirely on catalogues and such literature, as few companies have their representatives in these countries. If there is any doubt in the firm's mind as to exactly what is required they may either write for further details, or they may ship what they think is wanted (which is usually what is not wanted). Either course causes added and expensive delays to the job and one's boss is by this time probably asking when the work will be completed. Small tools and supplies are just as important as the large machines. There is no corner hardware store where one can step in and get an axe or a pound of nails in an emergency. The closest store or source of supply is several thousand miles distant and such needs must be anticipated. Large companies operating in localities some distance away from a supply base usually maintain a stock of small tools and supplies for the ordinary maintenance work but when any unusual or unexpected work comes up the demands on the store stock far exceed their limited supplies, and then again the engineer must look ahead, see his work in progress and order the materials and tools he is likely to need. Even the small stock which is kept on hand in the stores must be frequently checked by the engineer to see that ordinary daily needs are being kept on hand in sufficient quantities. If one relies entirely on the storekeeper, some day it is found that he is entirely out of track spikes or some other article urgently needed in the daily work. Here again one must wait two or three

months for the new spikes to arrive. It is impossible to telegraph to the nearest agency and get some the next day by express. Acts of God and other unforseen developments have to be borne in patience, and situations met as they arise.

Something should be said about the native woods under the question of material. In different localities throughout Central America much the same varieties of trees are found. The larger percent of native woods which grow in the lowlands are soft and unsuitable for any use whatsoever. This is due, of course, to their rapid growth. The trees do not have time to develop into strong, durable woods. There are a few woods that are very hard, but even these have a maximum life of three to four years when used in the ground, as piles, railroad cross ties, and so forth. The softer woods, when used as ties, will rot out in six months to a year. For interior work, however, there are several woods which may be used, notably mahogany, which costs about six cents per board foot in the rough. Yellow pine imported from the States costs from seven to nine cents per foot, after ocean freight, duty and railroad freight have been paid. Owing to the heavy rainfall in the tropics and the resulting extreme conditions of dampness, nothing but creosoted yellow pine is used on permanent work, such as pile trestles, bridge timbers, cross ties, sills and so forth. This will give from ten to fifteen years of service.

Under material comes the question of obtaining paints which will properly protect the surface of both wood and steel structures. The deteriorating action of a great amount of moisture in the air can only be realized by several years' observation of its action in the tropics. The slogan seen in advertisements for paints, "Save the surface and you save all", could well be extended to say, "Neglect the surface and you lose all." Nothing will deteriorate so rapidly as an unprotected surface of wood or steel in the tropics, and constant attention must be given to all structures and experiments made to obtain the best paints. This item of maintenance of structures is in itself a problem which must receive constant attention from the engineer.

The climate and local weather conditions vary a great deal according to the locality. One feature, however, that is general everywhere in the tropics is an abundance of rain. In some few localities there are definite rainy and dry seasons, but in other places an examination of the rainfall chart for several years will reveal that no one month or months can be picked out as always having the greatest rainfall.

The writer is connected with a company whose business is the raising and transporting of bananas to the States. Bananas require a rich, alluvial soil such as is found in the flood plains of tropical rivers. This soil, together with plenty of continuous sunshine and rain, produces the bananas. Thus it will be seen that banana farms are always located close to large rivers. This very fact is one of the chief excuses for the employment of an engineer by a company in this business. While the presence of the river has made it possible to plant and raise bananas, its presence in times of flood becomes a serious menace to the banana farms. Tropical rivers are queer. They run along ridges. This is easily explained by the river's flooding its banks for hundreds or thousands of years, each time depositing its load of silt along the level ground on either side for a width of one to three miles. This eventually builds up the level of the banks to as much as ten feet above the ground level a mile or so distant. Now, when the river floods over its banks, the water tears down the slopes through the bananas, destroying, flooding and generally playing havoc with everything in its path. This action of the rivers is hard to control; in fact,such control is almost out of the question in many cases. In others, however, long levees have been constructed along the banks, but this is a very costly procedure and only a most favorable contour of the ground warrants such a method of control. As the course of the rivers generally runs through comparatively flat country, they meander back and forth forming a succession of "S" curves. The curves are not stationary but move back and forth, the river cutting away many acres of beautiful banana trees in a few hours of flood. Here again, where it is practical, an attempt is made to prevent this cutting action by various types of stream deflectors.

In connection with the disastrous effects of the climate, wind is one of the most destructive agents there is. A strong wind is rare, not occuring over once or twice a year, but when it comes, the tall, top-heavy banana trees go down like nine pins. In a few minutes' gale, the writer has known over half a million trees to be blown over in one group of farms. One other group of farms lost 800,000 trees in one year from blow-downs. As every tree down means one stem of bananas less production, one can readily see the tremendous losses suffered in banana farming from this cause alone.

Wherever there are bananas there must be railroads and tram lines to haul the fruit, and in some cases these railroads are operated as a public utility running into the interior of the countries many miles. In building and maintaining railroads in the tropics the engineer again finds a big field for his endeavors. The excessive rains cause swollen rivers which take out abutments and whole bridges at one sweep and perhaps wash out the roadbed where the railroad passes along parallel to the river. In December, 1923, the writer witnessed the disastrous results of the heaviest rainfall recorded for a period of seven days, since 1914, in that particular country. A sixty-mile stretch of mountain railroad suffered the greatest amount of damage. There were landslides almost too numerous to mention, some measuring 150 feet in length and 40 feet in depth over the rail. There were washouts of both the roadbed and bridges with their abutments. One washout along a river bank measured 40 feet from the old roadbed to the water level, 700 feet long and about 100 feet in width. One river jumped its bank into the course of one of its branches, where it took out a bridge abutment, allowing one end of a 100-foot span to drop into the river 30 feet below. A little farther along it again jumped this river bed, tore down through some valuable banana farms and into another river causing this one to swell and overflow its own banks. The writer assisted in directing the work of making a clean-up and temporary repairs on the railroad work, which required about three weeks. In other words, the road was completely tied up for that period of time and no through trains were able to run.

Such is the life of a typical tropical engineer. Those of you who are contemplating coming south, should come prepared to put up a fight with old Mother Nature.

# THE ENGINEERING SALESMAN *

*By E. H. Sniffin*

WHAT is the engineering student going to do when he leaves college? What is to be his career? Why has he studied engineering? Is the engineering profession his objective? Or does the field of business present the most attractive possibilities in which engineering knowledge and engineering training will be of value to him? If these questions could be pondered and answered, and answered correctly by the graduate, how many tragedies of men starting on the wrong career, of being misplaced, would be spared us. Many a good engineer has been spoiled in attempting to be something else, and many a man has remained in engineering work who had the talent for greater world service in another direction.

There have perhaps been more mistakes made in the field of selling than in any other occupation. That is because the average man looks upon selling not as a profession in itself, requiring very definite qualities of character, personality and temperament, but rather as perhaps the most pleasant occupation he could think of. For want of doing something else, he thinks he could sell. He likes the idea of traveling around the country, meeting various people, stopping at good hotels, and in general occupying himself with the social side of business life. And it is due to this wrong conception of selling work and to the fact that so few people realize what the requirements of a good salesman are that the percentage of real salesmen is so small. It is a fact that the management of our large industrial organizations admit freely that among their various branches of service the good salesman is the hardest man to find.

Are you a salesman? That is a very pertinent question. You either are or you are not. If you have the inherent ability, then you will need much training and much experience to reach your full size. When you sell you are dealing with men, not with things. Every man you meet will be different from every other. You will not be dealing with a concrete problem involving known substances, weights and dimensions, but with human nature in all its myriad froms, with a wide field before you in which to exercise your imagination and your resources. The result will always be uncertain, but you must be fond of this "game of chance", so to speak—the game of getting men to do what you want them to do. The books are full of precepts on salesmanship, but one thing they fail to say is, that unless you have that love for the chase, that houndlike instinct for going out and getting the order, knowing how to win, and also how to lose, feeling the tremendous lure of the uncertainty of it all, then you will remain in the rut of mediocrity, and although you may be called a salesman, yet you will be nothing of the kind. What was it the Man of Galilee said to Peter and Andrew when He wanted them to be His disciples? They were fishermen. He said, "I will make you fishers of men." What He meant was that He had certain great convictions that were to be implanted in the hearts and minds of mankind, and He wanted men who could go out and plant those convictions. And these men, believing in their product, and thrilled with their mission, went out and fished for men, just as a real salesman does today. And they had good preparation for their exalted salesmanship. They had been fishermen. Everyone who fishes, or tries to fish, is not a fisherman. How many people there are who try it! They fish for a while, have little or no luck, reel in their lines and start for shore. Your real fisherman hangs on; tries one lure after another; fishes at different depths; floats over a shoal and then across a weed-bed; works the boat close to a sunken rock, studying the habits of the fish, having the time of his life even when he catches nothing. But he is the man who brings in the fish. That is the way a real salesman goes about his work. He loves to sell. Defeat doesn't make him sore, doesn't make him dislike people. The harder they come the better he likes them. And when he gets them, oh boy!

We were speaking of the spirit of selling, for if the spirit isn't there, you had better keep out of it. The salesman was once the fakir in the bazaar, the trickster. "Saveat emptor", let the buyer beware, was the philosophy of his calling. And even yet we sometimes think of the salesman as a slick gentleman whom we must be careful to watch. Well, if he gives you that impression he is no salesman at all. And don't you ever try to be a salesman yourself unless that truth is in you. You must believe in the thing you are selling; first buy it yourself before you can sell it to others. And your work of selling is a work of dignity. Make it so. You are your company's voice. Don't forget that. A serious-minded, good-natured, optimistic, enthusiastic, imaginative man—that's what the salesman should be.

But few words are required on the mental qualities of the salesman, and on his character and moral qualities. It goes without saying that he cannot get very far if people question his character or if his moral fibre is at all weak. He is in contact with all kinds of people, under many different conditions. His working hours are, of necessity, irregular. He is away a good deal and somewhat removed from the orderly processes of community life. Compared with the man who travels to and from his work at fixed hours, he may find more opportunity to acquire irregular or questionable habits, but a good man can easily stand that test. As to the matter of brains, the more the better, but good judgment and common sense and straight thinking are more needful than genius. Above all things, know your product and its uses. Be a student of the economics of your business. Make yourself so interesting and so helpful to the purchaser that you will naturally prevail over your competitors. It will surprise you how many of them will let you do it.

So it gets back to the first question. Are you to be an engineer or a commercial man, or perhaps a salesman in an engineering business? Some engineers are good business men, and are better engineers for it.

(Continued on page 23)

*Note: One of a series of four articles contributed by Westinghouse E. & M. Co. in the hope that the information presented may be helpful to engineering undergraduates in analyzing themselves in relation to the engineering profession. The author, Mr. Sniffin, is in charge of the Central Station business of the Westinghouse Company.

# ALUMNI NOTES

### 1893

Robert D. Valentine has been in Everet, Washington, for some time and has written for a catalogue so that he can look up Rose men on the coast and on his way home to Minneapolis.

### 1894

Austin V. H. Mory, member of the Advisory Board of "Industrial and Engineering Chemistry", has been appointed Director of Scientific Pubilcity for the Bakelite Corporation and will have his headquarters at 247 Park Avenue, New York. Mr. Mory goes to his new duties from the direction of the Technical Bureau of the Biscuit and Cracker Manufacturers' Association of America. Previously he was Director of Research at Procter and Gamble, Cincinnati, and prior to that appointment served as Director of the Laboratory of Sears, Roebuck and Company, to which he came from federal scientific service.

### 1904

Walter S. McNabb, living in Asanol, India, mailed his Alumni card without changing the address, Rose Polytechnic Institute, Terre Haute, Indiana. It acquired five different post marks and two notations, "not traceable," before someone was inspired to add "America." The one cent postage stamp brought it all the way.

### 1908

Charles H. Sievers, who is a civil engineer in Boulder, Colorado, is in charge of the construction of the new stadium for the University of Colorado.

### 1909

Carl W. Piper is now with the Westinghouse Electric and Manufacturing Company, at Cincinnati, as Industrial Heating Engineer. He was formerly manager of the Piper Engineering Company, at Cincinnati.

### 1910

Nathan A. Bowers, who has been Pacific Coast Editor for McGraw-Hill Publications, at San Francisco, California, is now entering on a period of residence at Stanford University while working for his Ph. D. degree.

### 1914

Claude A. Lyon, Superintendent of Operation of the Regan Safety Device Company, at Chicago, visited the school on February 23.

### 1919

Robin E. Woodruff has gone to Chicago, where he is connected with the Gulick-Henderson Company. His address is 7427 South Shore Drive.

Just as he promised to do several months ago, Mr. Hal. B. Tyler has sent us an article on "Engineering in the Tropics," which we are publishing in this issue. After recovery from a serious illness, during which he was in the United States, he returned to Costa Rica and plunged into slide and washout work to which he refers in his article. He was then transferred from the Northen Railway, at Limon, to the Guatemalean Division of the United Fruit Company. His present address is care the United Fruit Company, Puerto Barrios, Guatemala, C. A.

### 1922

Floyd F. Hunt has taken a position with the Link-Belt Company, of Indianapolis.

### 1923

Dick Hager has been awarded a prize by the General Electric Company, at Schenectady, for suggesting a new method of assembling a certain type of machine. An interesting piece of news that has just come to us is that, being on the company's winning baseball team, Hager was given a trip to New York to see the world's series last fall.

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Rose Poly has turned out more famous engineers than you can stand up in a row and shake an umberella at in a day's time, but it has never produced a George Ade, nor a Jim Riley, nor a Ring Lardner. But at last!

Rose, poor girl, is now going through the agony of giving birth to a Ring who will ring Ring's death knell. Listen to this, just as it was swiped from the desk of Prof. Settles:

I beleave that as the country gets more thickley populated the decresing birth rate automatickly puts a damper on the groth, or some other exturnal force will cause it to happin. * * * Laws of the United States intitols you to certain writes such as voating. * * * The most searious thing I see wrong in not having free traid is that the tarriff makes you pay a heigher price to by frome some other county.—(From a final examination paper in Junior Econ.)

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The University of Michigan has recently installed a liquid air machine on the campus. While the expenditure was large, it was felt that it was justified because of the many uses its product finds in physical and engineering research.

The greatest use of liquid air at the present time is in the exhaustion of vacuum tubes when very high vacuums are required. Mercury vapor is used to displace all other gases in the bulb which is then cooled by liquid air until the vapor is completely solidified so that there is no longer a possiblility of any diffusion back into the bulb.

Instead of getting the air from Detroit at $2.50 per quart and losing a large portion by evaporation, it can now be supplied at the rate of six quarts per hour and at about half the previous cost.

The Polytechnic Institute of Brooklyn recently held an open house for the public. All laboratories were put into operation, and the work of the school in general was shown.

# FRATERNITY NOTES

## ALPHA CHI SIGMA

Iota Chapter announces the pledging of Marshall T. Landrum, J. Preston Lentz and Harry P. Shewmaker, all of Terre Haute and of the class of 1927.

Clarence L. Corban, Gordon L. Kittle and Ernest P. Pifer were initiated into the fraternity on February 1, 1924.

Brother Errol L. Fox, Iota alumnus, has received his Master's degree from Indiana University and is now working on his Doctorate. Fox is specializing in electro-chemistry. We wish him all the luck in the world in this work of his.

Brother John Sanford, '15, prominent consulting and analytical chemist of this city, is a proud father. Congratulations, John.

Iota Chapter held a smoker for the pledges on Monday evening, February 18, at the home of Garnet Phillips. Brother H. M. Corban gave a short talk on "Fraternity Life and What It Means to a Freshman."

Brother Harry R. Kinkle was in town over Washington's birthday.

Brother Lauderbach, '21, spent a few days at home during February. He is with General Electric at Fort Wayne.

## P. I. E. S.

The Fraternity announces the pledging of Ernest Ewers of the class of '25 and the following freshmen: William Barbazette, Lee Berry, Harold Carson, Harry Davis, Edward Dunning, Jr., Clarence Eckhoff, Donald Fenner, William Hillis, Ronald Pinson and Chester Trigg.

Thursday evening, March 6, the Fraternity held its annual Pledge dance in the Edgewood Grove Community Club House. Music was furnished by Ada Campbell's orchestra of five pieces. Punch was served throughout the evening and a delicious luncheon served in the dining-room following the dancing. Honor guests at the dance were Prof. and Mrs. F. C. Wagner, Dr. and Mrs. E. S. Johonnott, and Prof. and Mrs. O. L. Stock.

On Thursday night, February 21, the Fraternity entertained the Mothers' Club, the members of which are mothers of the men in the Fraternity, at the Fraternity House.

Brother John Bernhardt, '05, Chief Engineer of Bridge Construction at Chicago, visited the Fraternity House on Sunday, February 23.

## SIGMA NU

Beta Upsilon chapter announces the pledging of the following members of the Freshman class: Frank E. Crecelius, Bicknell, Indiana; Charles G. Griffin, Olney, Illinois; George B. Lake, San Francisco, California; Raymond F. Munson, Scranton, Pennsylvania; Clark Piper, Paris, Illinois; Russel W. Staggs, Cory, Indiana; and Richard C. Brown, W. Urban Fischer, Fred E. Nicoson, Arthur F. Reinking, Claude H. Sweeney, J. Robert Vendel and Baird West of Terre Haute.

Beta Upsilon celebrated a very successful rush season with a dance in honor of her pledges on Wednesday evening, February 20. The dance was held at the Edgewood Grove Community House which was attractively decorated with the Fraternity emblems. Good music, lots of pep, and a fine place to dance all contributed to make this annual affair a great success. At eleven o'clock a light luncheon was served. Following the luncheon, short talks were made by President Wagner and Doctor White. Professor and Mrs. Wagner and Doctor and Mrs. White were the honor guests of the evening.

Brother H. J. McDargh and Mrs. McDargh visited the chapter during rush season. Since graduation Brother McDargh has been in the employment of the Illinois Central Railway.

## THETA XI

As a result of the recent rush season, Kappa Chapter announces the pledging of the following men:

Ralph K. Andrews, Wiliam L. Collins, Ralph T. Davy, John A. Garrigan, La Verne Green, Carson Harpold, Charles H. Hunnell, Frank E. Lutes, Eugene J. Lyons, Albert K. Makinney, Henry T. Nancrede, Spencer W. Shaw, Fred L. Trautman.

Several of the brothers attended the National Convention held at Indianapolis the week-end of February 22-23.

The construction of the new dormity has just been finished and additional improvements will be made in the near future. The brothers have become quite adept at the carpenter's trade and some have almost decided to change to this occupation.

Recent visitors at the house were Brothers Triest of Cornell, Garby of Yale, Hitchinson of the University of Illinois, Wegwart of Armour Tech and several of our alumni, Brothers Eichin, Penna, Schlaman, Dix, Stockmaster, Tetzel, Bledsoe and Boyd.

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Dean E. H. Wilkins, University of Chicago, has declared that masculine "dumb-bells" outnumber the "dumb doras" at that college this year by three to one. The Dean based his decision on the number of flunk notices mailed to the students. The freshmen were hit the hardest and unless they catch up, they will be "busted." Of the 405 notices sent out, 305 went to male students.

Polytechnic Reporter.

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A tool, combining the operations of aligning connecting rods and pistons with a reaming of connecting rod bearings, has been brought out to perform the work ordinarily requiring two or more tools.

Reclamation of blast furnace dust is being carried on in several large ferrous metal plants with a large saving. The dust contains, in some instances, as much as 50 per cent iron ore.

# Basket-Ball

## BASEBALL IN 1924

With the close of the basketball season, and the appearance of warm days and southerly winds, Rose students are turning to thoughts of baseball. A number of experienced players are available, and, with the new material available, it is thought that "Heze", ably assisted by "Diz" Brinton, manager, will be able to enter a strong Engineer nine in the coming season of college competition.

Brettell, Campbell, Bohannan, Fischer, Miller, Dowen and Wolf are the mainstays of the veteran ranks.

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## 16—ROSE, HANOVER—25

On the night of February 8, Rose lost to the speedy Hanover team at the Rose gym. Beer, Cezar and Powell were too much for the Engineers and captured a well-deserved victory for the down-staters. The two guards, Watson and Schoonover, were the best players for the Engineers, while the entire Hanover team handled the ball well, with Powell doing most of the scoring.

LINEUP AND SUMMARY

| ROSE | | HANOVER |
|---|---|---|
| Skeeters | F | Powell |
| Fisbeck | F | Feeler |
| Anderson | C | Beer |
| Watson | G | Cezar |
| Schoonover | G | Hough |

Substitutions—Hanover: Phipps for Feeler. Rose: Wilson for Fisbeck, Kadel for Wilson, Shepherd for Anderson. Field Goals—Hanover: Powell 5; Cezar 3; Feeler. Rose: Watson 4; Anderson, Skeeters, Wilson. Foul Goals—Hanover: Feeler 3. Rose: Watson 2. Referee, Miller of DePauw.

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## 18—ROSE, STATE NORMAL—30

State Normal retained the city championship by defeating the Rosemen decisively on February 12. Schoonover and Skeeters featured the Rose play, while Burris, Tudor and Wolf all displayed excellent form for the teachers.

LINEUP AND SUMMARY

| ROSE | | STATE NORMAL |
|---|---|---|
| Skeeters | F | Wolf |
| Wilson | F | Tudor |
| Anderson | C | Willis |
| Watson | G | Burris |
| Schoonover | G | Albright |

Substitutions—Normal: VanHorn, Ellsburg, Darry. Rose: Sheperd, Fisbeck, Kadel. Field Goals—Normal: Wolf, Tudor, Willis, Burris 2. Rose: Skeeters 3; Wilson, Shepherd 2. Foul Goals—Normal: Tudor, Burris 4; Wolf 2; Willis. Rose: Skeeters 3; Watson 2. Referee, Jensen; Umpire, Lantz.

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## 15—ROSE, EARLHAM—32

The Engineers, with the strain of four games in seven days upon them, proved easy for Earlham on February 18. Wallace and Huntsman starred for the Quakers, while Captain Skeeters bore the brunt of the Engineer attack.

LINEUP AND SUMMARY

| ROSE | | EARLHAM |
|---|---|---|
| Skeeters | F | Wallace |
| Wilson | F | Scott |
| Anderson | C | Huntsman |
| Watson | G | Spaulding |
| Schoonover | G | Greene |

Substitutions—Earlham: Schumaker for Scott. Rose: Shepherd for Wilson. Field Goals—Earlham: Wallace 5; Huntsman, Spaulding 3; Schumaker. Rose: Skeeters 3; Wilson, Anderson. Foul Goals—Earlham: Huntsman 3; Wallace, Scott 2; Greene. Rose: Skeeters, Watson, Schoonover. Referee, Feazle; Umpire, Bacon.

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## 33—ROSE, LOYOLA—22

Coach Clark's crew crushed Loyola of Chicago in a clean, fast game at the Rose gym on February 23. It was the final home game of the year, and marked the last appearance of their college career in Terre Haute for Captain Skeeters and Pete Watson. Captain Skeeters simply could not be stopped by the "Yellow Jackets," and registered five field goals from the floor in the first half. His passing and floor work were perfection. Watson, too, made a wonderful showing, throwing seven straight goals from the foul line besides counting three times from afield. The defense of both teams was good, but the Chicago forwards could at no time work the ball in for short shots. Kamlin and Deegan played well for the North Shore school.

LINEUP AND SUMMARY

| ROSE | | LOYOLA |
|---|---|---|
| Skeeters | F | McGraw |
| Wilson | F | Kamlin |
| Anderson | C | Deegan |
| Watson | G | Schlaaks |
| Schoonover | G | Devlin |

Substitutions—Loyola: Simonach for McGraw, Dooley for Kamlin, Deegan for Dooley. Rose: Shepherd for Wilson, Fisbeck. Field Goals—Loyola: McGraw, Kamlin, Deegan, 2. Rose: Skeeters 6; Watson 3; Anderson 2; Fisbeck. Foul Goals—Loyola: Schlaaks 5; Kamlin 4; Simonach. Rose: Watson 7; Wilson 2. Referee, Bayh of State Normal.

### 12—ROSE, HANOVER—34

Journeying to Madison to meet Hanover, Rose took a stinging defeat at their hands on the night of February 28. Both teams started strongly, but the superior goal shooting of the strong Hanoverians soon evidenced itself, and a bombardment of the net by Beer, Feeler, Powell and Cezar soon piled up the score. The Hanover team played well as a unit, while the Engineers lacked co-ordination in their team play. Schoonover and Watson were the outstanding players for Rose, while Powell, as usual, was the ace of the sharpshooters for the down-staters.

### 28—ROSE, UNIVERSITY OF LOUISVILLE—13

Staging a decided come-back over the form of the previous night, the Rose Engineers trampled on the Cardinal court team on February 29. Rose took the lead early in the game, and was never headed, although at the end of the first period they enjoyed only the slim margin of three points, the score being 14-11. Skeeters and Watson were the sharpshooters for the Terre Haute collegians, and led in the Engineers' attack throughout. The guarding of Schoonover, especially in the last half, was also of the highest caliber, the Kentucky tossers being held to two field goals.

### 32—ROSE, YOUNG MEN'S HEBREW ASS'N—29

Playing the last of the series of three games included in the last basket trip of the season, the Rose basketeers defeated the Y. M. H. A. of Louisville on March 1. The game was, at all times, close and hard-fought with Rose leading at half time, only to lose and regain their margin in the second half. Captain Skeeters played excellent basketball in his final college game, and was high point man of the evening. Schoonover was the usual tower of defense for the Engineers, while Marlin played the best game for the Southerners.

### 21—ROSE FRESHMEN, DE MOLAY—16

In a curtain-raiser before the Rose-Loyola game on February 23, the yearlings defeated the fast De Molay team. Captain Reinking, Piper and Berry were the Frosh stars. Berry, with four field goals, was the scoring ace, while Captain Reinking tossed three through the ring. Captain Henderson and Percy were the luminaries for the defeated team.

LINEUP AND SUMMARY

| ROSE FRESHMEN | | DE MOLAY |
|---|---|---|
| Reinking | F | Pitser |
| Berry | F | Kruse |
| Hopper | C | Wood |
| Staggs | G | Percy |
| Piper | G | Henderson |

Substitutions—De Molay: Scott. Rose: Franzwa, Mahan, West. Field Goals—De Molay: Percy, 3; Pitser. Rose: Berry 4; Reinking 3; Hopper 2. Foul Goals—De Molay: Kruse, Wood. Rose: Reinking 2; Piper. Referee, Russel.

# Y. M. C. A.

As a result of a general election held on March 3, the following were elected officers and members of the Board of Advisors of the Y for 1924-25:

**Officers**

President.....John M. Barr, '25
Vice-President.....Edward F. Kelley,' 26
Secretary.....Harry Lewis, '26

**Members of the Board of Advisors**

Professor Peddle
Doctor Sousley
Doctor White
Professor Wischmeyer
Reverend F. LeRoy Brown
Mr. James S. Royse

Professor Faurot, as Faculty Advisor, is included in the above listed Board.

There seemed to be some increase in the interest taken in the election, which apparently indicates that the Y. is continually becoming a greater factor in student activity. Association work is beginning to assume large proportions, and present plans, if developed, will demonstrate the fact that the Y. has had —and **has**—a real program and that there are many students sufficiently interested to help materially in the work.

By April 1, the Association expects to step off with a new spirit, with a cabinet almost entirely new and entirely rejuvenated, ready for another year's work.

Checker tables have at last made their appearance in the Y. room and certainly seem popular. The "store" has recently taken on a line of liniment and slings for the benefit of the more strenuous players.

Other improvements in the appearance of the room have been made by the addition of several pictures and the completion of the sales counter. The officers thank those who helped build the counter. Over three hundred hours were spent on it, and the work would have been impossible if outside help had not been available.

# ROSE TECH A. A. E.

On Thursday morning, February 21, the Rose Tech Chapter of the American Association of Engineers held its first meeting. Officers were elected as follows: President, Martin, '24; Vice-President, McIntosh, '25; Secretary-treasurer, Ray Fitterer, '24.

The Association now has forty members and gives promise of becoming a thriving organization. No elaborate program of activities has been outlined but several things are planned. One of these is some sort of social affair in cooperation with the Terre Haute Chapter, to give the students and their brother practicing engineers of the city a chance to become acquainted. Another important activity of the Association will be in the matter of employment. Correspondence will be carried on with firms hiring engineers, for the purpose of obtaining employment for the graduating members and summer jobs for undergraduate members.

The charter is still open, and men who apply for membership now may be listed as charter members.

## Weights and Measures Bills Introduced in Congress

Two bills have been introduced in Congress with the object of obtaining a more reasonable system of weights and measures. The first was introduced by Senator William King.

The bill to rectify, coordinate, and decimalize the weights and measures of the United States provides that the foot shall be the linear base for weights and measures. The ounce is defined as the weight of the cube of the tenth of the foot of water at the maximum density, and the fluid ounce as the volume of the cube of the tenth of the foot, thus producing 1,000 ounces to the cubic foot. This takes half a grain off the weight of the avoirdupois ounce. The foot is divided decimally into 10 digits, 100 lines, and 1,000 points, and the ounce is divided decimally into 10 drams, 100 carats, and 1,000 mils.

The pint is defined as the volume of the pound weight of water which makes the pint the precise tenth of the British imperial gallon. With these new definitions, it is expected that there will be an expanding use of ounces and pints in decimal multiples for trade quantities.

The bushel is defined as 2,160 cubic inches, which adds 9 cubic inches to the Winchester bushel and makes the new standard bushel exactly 1¼ cubic feet. The cubic foot is made the standard measure for all commodities and is divided decimally for liquids and binately into halves, quarters, and eighths for dry commodities. The eighth of the cubic foot, or a cube 6 inches in each dimension, is exactly the tenth of the new standard bushel. The bill will not affect the bushel weight of any commodity as fixed by law or custom, or prohibit the use of measures not defined by the act.

No change is made in the linear measures. The pole is made the measure of 10 feet. The conversion ratio between inches and millimeters is fixed at 10 to 254. The slight changes required for the rectification of the ounce, fluid ounce, pint, and bushel are within the tolerances presently allowed for these measures and are negligible in trade and contracts.

The bill is designed to provide an American decimal system of weights and measures, a project which was recommended to Congress by Washington and Jefferson, and which is within the express powers conferred on Congress by the Constitution.

The Engineering News prints the following with respect to the other bill.

According to the provisions of the Britten-Ladd bill, the buying and selling of goods, wares and merchandise will be in terms of the metric units after a period of ten years. Manufacturers are to use whatever measures they choose in production, the bill providing "That nothing in this act shall be understood or construed as applying to the construction or use in the arts, manufacture or industry of any specification or drawing, tool, machine, or other appliance or implement designed, constructed or graduated in any desired system." This safeguards manufacturing interests. Hundreds of great industrial concerns are urging the metric legislation on this basis.

Rules and regulations for the enforcement of the Metric act are to be made and promulgated by the United States Secretary of Commerce.

The metric bill was introduced in the House of Representatives by Hon. Fred A. Britten of Illinois, and in the Senate by Hon. Edwin F. Ladd of North Dakota. The legislatures of these States, in company with many others, have petitioned Congress to enact metric standard laws. More than 100,000 petitions, directly representing several millions of voters, are pending before Congress, urging favorable action on adoption of the world units for weighing and measuring.

The simple decimal nature of the metric system is ingeniously stressed in the numbers of the metric bills themselves—Congressman Britten's being number 10 in the house and Senator Ladd's bill number 100 in the Senate.

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Five thousand dollars is available for award annually by the Charles A. Coffin Foundation, established by the General Electric Company, for fellowships in electricity, physics, and physical chemistry, to graduates of universities, colleges, and technical schools of the United States. The men who receive these awards must have shown, by the character of their work, that they could, with advantage, undertake or continue research work in educational institutions, either in this country or abroad.

These fellowships carry a minimum allowance of five hundred dollars a year, which amount may be increased according to the particular needs of the student. It is the object of the Foundation committee to award these fellowships to men who could not devote themselves to research work without financial assistance. Six of these awards were made last year, and the opportunity is now open to make application for those to be given this year. Applications will be welcomed from seniors as well as graduates of colleges, universities and technical schools, but any award to a senior will be conditioned upon his graduation and subsequent examination.

Applications must be filed with the committee by April 15, 1924, and should be addressed to W. W. Trench, Secretary, Charles A. Coffin Foundation, Schenectady, N. Y.

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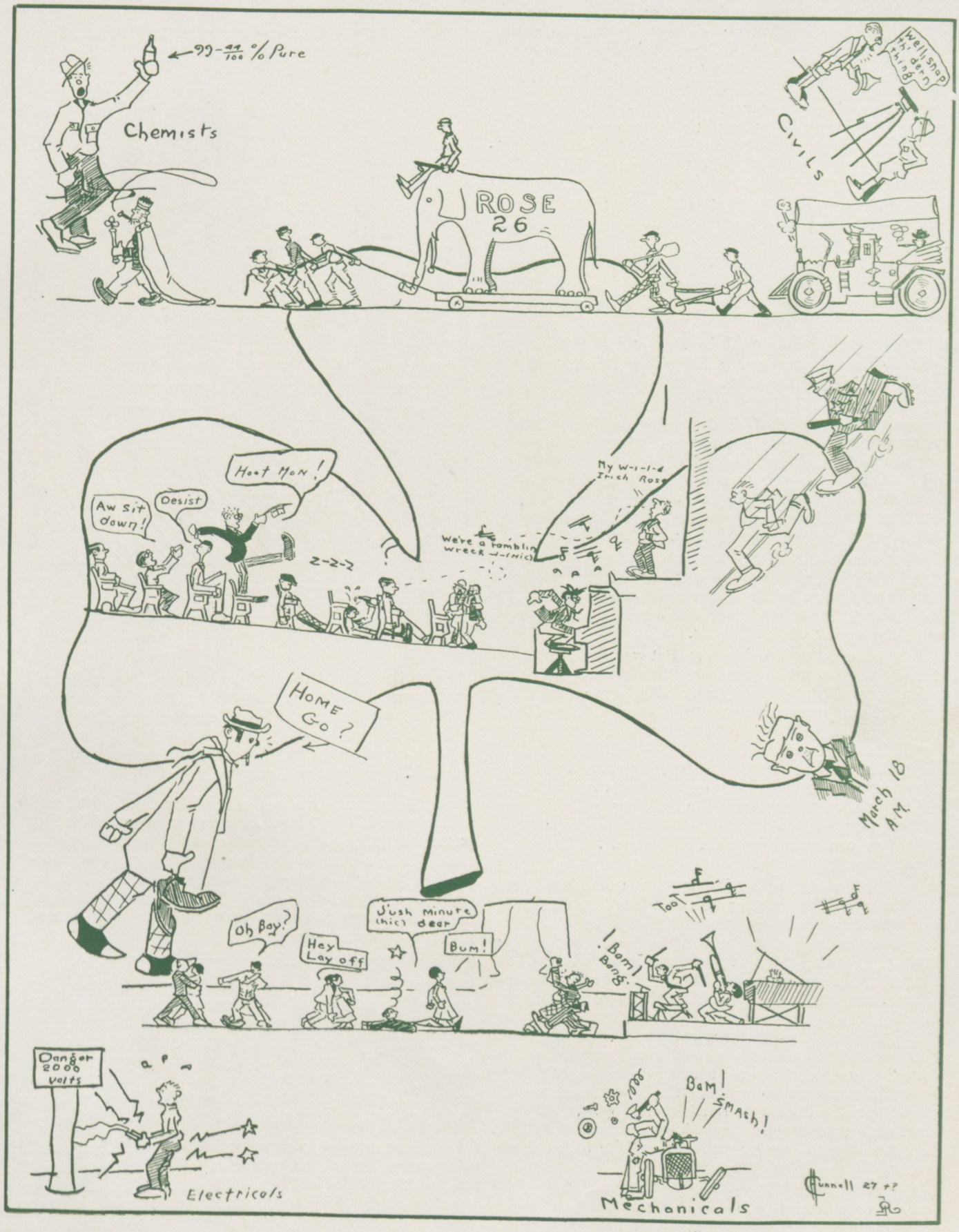
A motion picture camera has been perfected in this country which will take pictures at the rate of 2,500 per second. It is being much used in research study on the behavior of materials under strain. The analytical character of the picture affords an insight as to the actual effect of the distorting and straining forces.

A vegetable extract fuel oil, flames of which are extinguishable by means of water, is being marketed in South Africa as a commercially competitive substitute for gasoline. The chief constituent of "natalite," as it is called, is said to be alcohol.


99-44/100 % Pure
Chemists
ROSE 26
Civils
Well, snap th-dern thing!
Hoot Mon!
Aw sit down!
Desist
2-2-2
My W-i-l-d Irish Rose
We're a tumblin wreck W-i-l-d
HOME GO?
March 18 A.M.
Oh Boy!
Hey Lay off
J'ush minute (hic) dear
Bum!
Toot
Bam! Bang!
Danger 2000 volts
Electricals
Bam! SMASH!
Mechanicals
Gunnell 27

# ST. PAT VISITS ROSE

As has been his custom for some years, St. Michael Aloysius Patrick Doheny visited the Institute on March 16. He arrived in Terre Haute very early in the morning and immediately upon alighting from his train, asked the TECHNIC reporter who met him, for directions to the nearest wild animal with defective vision. "I must be in condition to consort wid the byes tymorrie," said the genial old boy, "and, as well ye know, it take a lot o' doin' t' make a good Oirishmon feel in true celebratin' form." So the reporter took him down to Seventh and Main as he asked——

After Pat had been oiled, (he insisted that the reporter call him Pat, and sure it would have seemed quare to call sich a fine ould boy Mister. Faith and he's got me talkin' in his brogue now!) we took him out to school and he started to make the rounds of his old friends. His first visit was to Waggie.

"Hi there, Frank, ould bye," shouted Pat as he ambled through the door of the office. "Sure and it's glad I am to see you in that chair young feller, me lad. Ye're the mon fer it and no mistake."

The reporter was "called away" here, it being borne in on him that it was not for him to witness such a meeting, where Prexy was taken so far from his dignity. When Pat came out of the office, though, his face was beaming in a way that made it quite apparent that he hadn't been snubbed. The reporter decided that Waggie wasn't such a bad scout, after all.

Next Pat went across the hall to "see Mary and Ben." This time the reporter discreetly remained outside the door, but from the modulations of the old boy's tones, he decided that Pat was a bit less jovial with the newer of his friends.

In the logical order of events, Pat went next into the library with a jovial shout of "Hello Froggie, you youngster. What d'ye mean by hidin' out on me thisaway? Come out here once 'till I wring the hand off ye." Honest, fellows, you'd never have known your Nemesis. The way he thawed out—Well, the reporter himself had a hard time believing his eyes, and when the staid Professor actually told a story that made the old Saint almost tear down the building with his roar of laughter, the reporter decided that he must have taken on too much lubrication himself. That last simply wasn't possible.

In a few moments Professor Settles wandered into the library. The reporter was at a loss to understand his reason for it, as it is well known that what the Professor doesn't know isn't in the books, but nevertheless he came. St. Pat's whole manner changed as Professor Faurot introduced him. His brogue disappeared, and in the best of English he congratulated Mr. Settles on his position in the Institute. "I hear that President Wagner finds you an invaluable aid in the administration of school affairs," he said. "In fact, the President told me that it would be absolutely impossible for him to conduct the assemblies were it not for you." Professor Settles accepted the compliment with a modest smile, making no comments. "I have nothing to say for publication," he told the reporter.

A look into the Y. Room caused Pat to ask the reporter to quote him as saying that the boys who were responsible for its arrangement had his heartiest congratulations.


Exclusive Photograph of Saint Patrick, Snapped by the Reporter as Our Patron Left the Train.

From this stop, the Saint ambled on down the runway, complaining good naturedly about the necessity for climbing the steps. "Froggie and them other boys as keeps them doors locked ought to be made to climb all the steps in the building three times a day, begorra," he puffed as he got to the top.

On the runway we met several of the Profs., and nothing would do but that we must stop while Pat passed a little good-natured chaff to each of them. Doc White, being the first to be met was uncermoniously asked, "Well, and do ye yet start all of yer classes with 'H-r-r-r-mp. Please answer to yer names'?" Boys, the way Pat got off that well-known line would have made half the fellows in school settle down in their seats for a good nap.

Right behind Doc, as usual, came Alf, and Pat stopped him to ask about progress on the Industrial Lab. "Some of the byes was afther tellin' me, Alf," said Pat, "that the new oil furnace ye've got out there scares ye half to death. They tell me that ye're afther jumpin' about half a mile every time she pops at ye. Keep at her, though, me lad. Ye'll learn to light her yet if ye work at it long enough."

Next we met Jo-Jo carrying in his hand a huge roll of manuscript. "And phwat is it ye're afther havin' wid ye there, Jo-Jo?" asked St. Pat. "Is it a new treaties on the S. H. M. or is it something ye've not worked on before?" After greeting the Saint in his usual enthusiastic way, the Doctor started a long ex-

planation of the work he was carrying. "It's an exposition of the advantages of a five-year course in Rose Poly," he said. "A longer course for everyone will materially reduce the number of students who annually graduate from the justly famous Rose Short Course. My idea runs about as follows: You see—" But St. Pat led the reporter away before the Doctor had time to elucidate further. It seemed that the jolly old boy just couldn't bear the thought of a cut in the number of recruits for the R. S. C.

Doc Sousley and Jackie came along next, and they both fell to talking to Pat; Jackie in behalf of the Rifle Club and Doc in behalf of the Masons. It would have surprised you to hear the eloquence with which each urged his particular cause. In fact they were so persuasive that the reporter excused himself in the middle of the controversy to go to the office and join the Rifle Club and telephone a petition for admission to the local Masonic lodge. St. Pat, however, was adamant. When the reporter returned, the Professors were still going strong, while Pat was merely grinning at both of them. Suddenly Jackie looked at his watch, and, with a mumbled word of apology, dashed off to his class room. It was four minutes and 30 seconds after the hour, and he was loath to spoil his record of seventeen years by calling the roll late. Doc, however, stayed with his argument until nine minutes and 45 seconds after the hour.

Just after Doc left us, Mac came loitering along the runway. "Ah, Bird!" he said, as he spied Pat. "How's the old boy this year? Haven't seen you in a coon's age!" and he entered into a long discussion of the relative merits of Scotch and rye. "When I was a student here——" he began, and rambled on at great length. At about quarter after, he looked at his watch and said, "Well, I had a class this hour, but I don't believe the boys were very anxious to listen to me. They've probably gone by now, anyway," and he went cheerfully on with the discussion which lasted until the end of the hour. The reporter picked up some very valuable pointers.

Knippy and Frank were the next two to show up, but by now the Saint was about talked out. Knippy started off on one of his harangues relative to the relation between student and Professor, and the poor Saint wasn't able to head him off. He had to let him go clear through the (to upper classmen) well-known lecture. The reporter withdrew, since he knew it all by heart. No sooner was Knippy through—winded—than Frankie started in on the subject of the Rose Radio Club, and the reporter dashed out of the building, fearing a repetition of his unfortunate experience with Doc and Jackie.

Really, though, you'd never believe how different all those "old stiffs" are when they're out of the "teacher" role. Just like a bunch of kids. Honestly!

The reported couldn't let Pat go without introducing our good friend Mr. Diefendorf, so we stepped down into the St. of M. Lab. for a moment. The Professor responded very politely to the introduction, but not so Pat. "Sure and don't you know me, Adelbert?" he asked. "Course I don't get over to Illinois verra often, but I have seen ye once or twice before. Come now, ye remember the ould bye wid the red much kick in correspondance; so accordingly I goes Professor haltingly admittted that he believed he had heard of St. Pat, and might, once or twice, have seen him. He showed no particular interest in the old boy, however, so the reporter led the Saint away. "He's a verra funny feller, me lad," said Pat, sorrowfully. "I'll win him over yet, though, if you fellers'll help me a bit. He's the makin's of a true engineer, but he takes himself just a little too serious right now."

St. Pat was greatly pleased with the changed appearance of the new buildings since his last visit, but he appeared restless and uneasy after he had seen and talked to all the Profs. Before long he indicated a desire to get back to town. "It's not long until tymorrie, me lad," he said, "and I'd hate to be out of shape then. Guess I'll go back in. See ye at the Indiana tymorrie." And with that he dashes down to grab a car.

Until today at one o'clock, the reported was unable to find any trace of St. Pat, but at the door of the theatre he found our patron in a state of true celebration. He is here now, enjoying to its fullest the unparalleled vaudeville performance being put on by his proteges. If you'll listen closely you can probably hear his hearty shouts of laughter every once in a while. Perhaps you'll even see him in person. The reporter is trying to induce him to appear on the stage. It is still, however, a matter of conjecture whether he will succeed or not.

Tonight, however, St. Pat will positively appear leading the parade. It is only fitting and proper that the patron Saint of all Engineers should lead his loyal cohorts, the sons of Rose, in their promenade through the streets of this fair burg—and that is exactly what will happen. It has been years since St. Pat has missed the opportunity to lead us, and only severe illness(?) could possibly prevent him from continuing the practice this year. We hope that the Fates will be kind.

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**An Engine Should Be "She"**

The following amusing letter from "Japanese Lady" appears in the Shipping Register of San Francisco:

"Some time ago you publish in your voluble paper article on female shipping steamer. I have thought to write you about female engine on train. You know why? Yes, they call she for many becauses.

"They wear jacket with yokes, pins, hangers, straps, shields, stays. They have apron, also lap. They have not only shoes but pumps. Also hose and drag train (psgr. and freight) behind; behind time all time. They attract men with puffs and mufflers and when draft too strong petticoat goes up. That also attract. Sometime they foam and refuse work when at such time they should be switched. They need guiding—it always requires manmanager. They require man to feed them. When abuse are given they quickly make scrap.

"They are steadier when coupled up, but my cousin say they hell of expense. Is not reason enough?"

—California Engineer.

# BILL AND ST. PAT

Dere Pete:—

Well, old sock, I calculate to the effect that when this missive encounters your lunch hooks, the time will be St. Pat's day and don't forget that "St. Pat wuz an engineer."

Things have been very pieceful and law-abiding here lately but the thoughts of the coming St. Pat's frolic has kept us from any suicides due to despondancy—In fact we aint had time.

Rosie, the Polytechnic Pachyderm, who has been honored in song and story, has been rescued from a premature funeral and already she is beginning to take on a cheerful and prosperous aspect. Her ribs are being straightened, her feet have been rejuvenated by a saw and hammer chiropodist and on to quote Sherwood-sub-two, she's a "kitty(?) on wheels."

So again, as in years gone by, will our noble Rosie march in ponderous strides down the main stem of our fair city.

Before I go further in this, I figger as how I orta elucidate some as to what St. Patrick's day means to us engineers. You see, Pete, St. Pat's is Rose Poly's day of days; the stewdents put on a flock of zippy vaudeville acts at one of the local amusement palaces at the matinee performance; after supper they stage the wildest, wierdest and wonderfulest parade that ole Terry Hutt ever cast its glimmers on; and last but not least, the day is finished ("finished" is right) with a dance that would make a New York Charity Ball look like a Seeleyville corn-huskers' contest. Take it from yours thirsty, St. Pat's is a holiday what knocks 'em for a row of Manchurian hen-houses.

During the past two weeks, all the branches of engineering—even the civils and chemicks—have been working on floats, sets and vehicles that would make Cecil B. DeMille's property-man break down and cry just out of sheer envy. Pete, the celebration is going to go over in a way that will give posterity something to gasp about. The dance is going to be at the Deming, and the "Columbians," who are the meanest flock of jazz-hurlers what ever rode forth from old Indianapolis, are going to put the "harm" in harmony and the "syn" into syncopation.

All the flapperese of the town are hanging out their "Welcome" signs to the boys what craves partners for the hop—Rose Polly is no pink parrot,—she's an elephant ready to rare!

Speaking of the dance reminds me that I haven't put you hep as to what mean mamma I'm going to drag. Huh? What say?—Yep, she's that and then! Her monniker is Carmelita Logan and believe you me, lil' Carmelita is the keenest jazz-stepper what ever trod the waxed boards of a modern fox-trot emporium. The present-day news-sheets all hark of the girls what danced with the Prince of Wales while he was visiting our illustrious nation, but right here I steps forth to acclaim that the most Hon. Prince's trip was in vain if he never danced with Carmelita.

You see, after I got back from Thomasville I corresponded with dere Alice for awhile but there aint face, don't ye?" After a moment's cogitation, the out to the "Tree-Anyon"—object in view being to liven my soul with the sound of a orchestra. Again did the Fates prove kind, because HERE I meets Carmelita, light of my life. It seems as how she had recently moved to this burg from my home town and as a result all the drug store cowboys had given her the go-by because they didn't know her and she looked like the "White Sister"—couldn't touch her with a hay rake—apparently. Aint Nature **wonderful!** So here she was, doing a "sittin' in a corner" act with no


one to appreciate her feminine pulchritude. Back in my cob-webbed brain-cells(?) I remembered that she was Tex Logan's sister and that Tex was one of the kids I used to play Indian with.

Well, to make a short story briefer, Carmelita and I acquaint ourselves to each other and before I left her doormat that night, I knew that they was others what had learned of women besides Mr. Kipling and Robt. W. Service.

# THE ORIGIN OF THE ST. PAT'S CELEBRATION

The Minnesota Techno-Log prints the following concerning the origin of the St. Pat's Celebration:

"Let profs do their worst; there are moments of joy;
Bright dreams of the past that they cannot destroy;
Which come in the night time of Flunkers' despair,
And bring back the features St. Pat used to wear."

The celebration in honor of St. Patrick began with the discovery of the Blarney stone during the excavation for the Engineering Building Annex in the year 1903. This stone was found to be covered with ancient figures resembling the hieroglyphics of old. For a long time these obvious purveyors of some important text were unread. However, the strange writings were soon translated after some concentration on the part of the seniors, and the translation given to the world. These men announced that the results of their investigation into the ancient writings of the past ages had given them the knowledge whereby they found the Blarney stone to convey the fact "Erin go Braugh" meant that "St. Patrick was an Engineer."

Such is tradition. As a mattetr of fact, the whole thing started from a discussion in the senior electrical design room one night. A History of St. Pat had been published by some historian and was causing comment throughout the country. That night an Engineer asked the question: "Who was St. Patrick?" The immediate reply was, "An Engineer, of coure." It was decided at once that March 17th should be a holiday, and the following resolution was written:

"Whereas, in the ranks of the Enigneering Department there are many of noble birth and Irish blood, and

Whereas, the ancestors of many of our illustrious students came from Erin's Isle, and

Whereas, St. Patrick was an Engineer,

Therefore be it resolved, that the Engineering Department take a holiday and attend the morning prayer meeting in a body."

On the morning of St. Patrick's Day a large group of Engineers attended the **prayer-meeting** in a body and held a later meeting in the general library, where they dedicated themselves to the service of their patron saint. It is said that it was a most imposing and impressive scene. After this they followed the band about town, singing Irish songs and having a splendid time in general. It was not long before many of the colleges of the country caught the spirit of St. Pat.

The first national convention was held at the University of Missouri on December 5, 1919. A conference representing eleven schools from seven states assembled. They organized the Guard of St. Patrick, adopted the Knight's pin, drew up a Constitution and By-laws providing for the securing of officers, and held an election. Since then a national convention has met each year and many chapters have been added. The following chapters have expressed their intentions of sending two delegates each:

University of Oklahoma
Missouri School of Mines
University of Tennessee
Washington University
Oklahoma A. & M. College
Iowa State College
University of Arkansas
University of Missouri
John Hopkins University
University of Nebraska

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Right here I would haul forth a word of caution to you, Pete. Please bern this letter, because if Alice should hear of my latest "affaire d'amour" (aint my Spanish nifty?) she would be very jellus and in the immediate future there would be flowers at my house and I wouldn't be smellin' 'em.

Yours,

BILL.

P. S.—I have been elected "Chief Shovel Wielder; Order of the Elephant" for the St. Pat's parade. I don't know what the job is, but I guess it is something very swell and important.

Encore,

WILLY?

---

"Do you think flappers make good wives?"
"I can't say about that, but they're certainly making some vigilant ones."

Judge.

---

**Fable D'Hotel**

Once Upon A Time, a honey-moon couple arriving at a hotel, asked to be called early as they wished to go for a walk before breakfast.

Kentucky Cardinal.

---

Mother (to daughter)—My goodness, how did you get all that ink on the side of your face?
Daughter's fiancé (unconsiously searching in vest pocket)—Gosh! Is that pen leaking again?

Jack-o-Lantern.

---

**All of Them**

Dorothy—"Father said he would kill the first man to kiss me."
Corwin—"How interesting. Did he do it?"

Kentucky Cardinal.

---

**A Heavy Meal—A Heavy Time**

It was during the storm on the way across. The bosun's mate growled, "All hands, heave out!" And with one accord, all hands heaved.

Log.

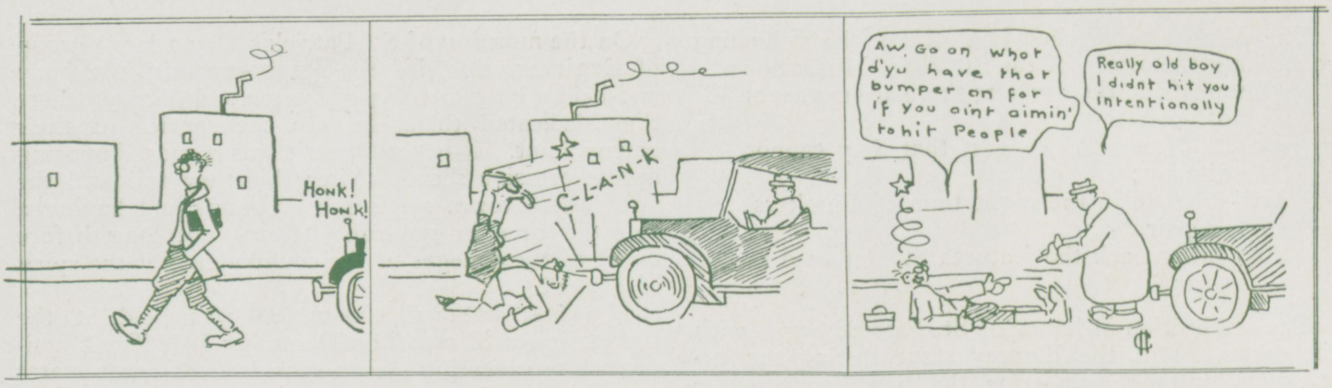
---

**Kneed He Know Her Name?**

"Ah say, Mary, would you jes's soon—?'
"Look here, Jim Jackson, don' you git fresh wif me. Mah name's Miss Smif, not Mary. I don' 'low only mah bes' and mos' pa'ticular friends to call me Mary."
"Ah begs yo' pardon, Miss Smif. But say, Miss Smif, would you shif to de oder knee? Dis one's gittin' tired."

Black and Blue Jay.

# Ye Caint Fewl These Normal Students By Heck!




### LOW-DOWN

Pat was on a great ocean liner bound for America. It was his first trip on the water and every ordinary event on the boat was a new one in Pat's repertoire of experience.

On the third day out the ship burst into flames. The fire was rapidly consuming the huge boat.

All the passengers were appropriating the life preservers, life savers, and life boats. Pat stood by for a few minutes, watching the mad rush. Finally, perplexed and disgusted, he exclaimed:

"Well, if everybody is going to steal stuff off o' the ship, I'll be gosh durned if I don't get in on the stealin' myself."

So saying, Pat grabbed a crowbar and jumped overboard.

—Sun Dial.

---

Sweet young thing driving through suburb: "Would you like to see where I was vaccinated?"

He, with enthusiasm: "Sure."

S. Y. T., pointing toward house which they had just passed: "Well, right in there."

—Polytechnic Reporter.

---

I got a man,
He's six feet two;
He don't love many,
But, Lordy! when he do:—

—Techno Log.

---

An army surgeon was examining a cow-puncher recruit.

"Ever had any accidents?"

"No."

"What's that bandage on your hand?"

"Rattlesnake bite."

"Don't you call that an accident?"

"Naw; the dam' thing did it on purpose."

—Techno Log.

---

A youth stood in front of a quick lunch stand and wept bitterly.

"Why this grief?" asked a benevolent citizen.

"Me fadder's dead," replied the blubbering urchin.

"How do you know?" asked the benevolent citizen.

"Because he went into that quick lunch stand five minutes ago and he ain't never come out yet."

—Michigan Technic.

---

He: "Elman is quite a musician, isn't he?"

She: "Oh, yes. Even when he was two years old he used to play on the linoleum."

—Jack-o'-Lantern.

---

### Which Reminds Us Of—

First He: "Have you ever done any public speaking?"

Second He: "Yes, I once asked a girl for a date over the frat telephone."

### Acquitted

Sambo: "You know, Rastus, dat every time ah kiss mah wife she closes her eyes an' hollers?"

Rastus: "Ah say she do."

Sambo: "What's dat, Nigger?"

Rastus: "Ah say, do she?"

—Orange Owl.

---

### Sign in the Chemistry Building

ANNUAL CHEMISTS'
GETDRUNKTOGETHER
NEXT WED.
ON ACCOUNT OF THE HIGH PRICE OF
LIQUOR, BRING GINGER-ALE
(We'll get ethyl from the store room)

—Minnesota Techno Log.

---

A year course in GIRLS 1 and 2 wouldn't look so bad in the catalogue at that.

—Wisconsin Engineer.

---

Father (questioning son who wishes raise in allowance): "What's the average income of your frat brothers?"

Son: "About three a. m."

—Franklin.

---

### At the Funeral

Cousin Hiram: "Is that a new hall clock over there?"

Wife of deceased: "Sh-h-h. That's poor old John. I knew the room would be crowded, so I stood the coffin on end."

—Awgwan.

---

### A Key Hole Romance

One of the local hotels caught on fire, and in the newspaper description of it, we found the following statement—"Miss Zelle, who was taking a bath at the time the fire started, was saved by the watchfulness of the porter and shineboy."

—Puppet.

---

Mother was unpacking son John's suitcase and found a pawn ticket hanging upon his coat—"John, what is this tag doing upon your coat?"

Son John: "Oh, I was at a dance, mother, and checked my coat."

A moment later she came upon the trousers similarly tagged. With a puzzled look she inquired: "John what sort of a dance was that?"

—Polytechnic Reporter.

---

### Attention, Welfare Committee!

Jessie: "How do you like your new dress?"

Bessie: "It falls just a little bit below my expectations."

Jessie: "I noticed that, too. They are making them a little long this season."

—Reporter.

# ROSE

# JUNIOR PROM

## MAY 15, 1924

Played by

## BENSON ORCHESTRA

of Chicago

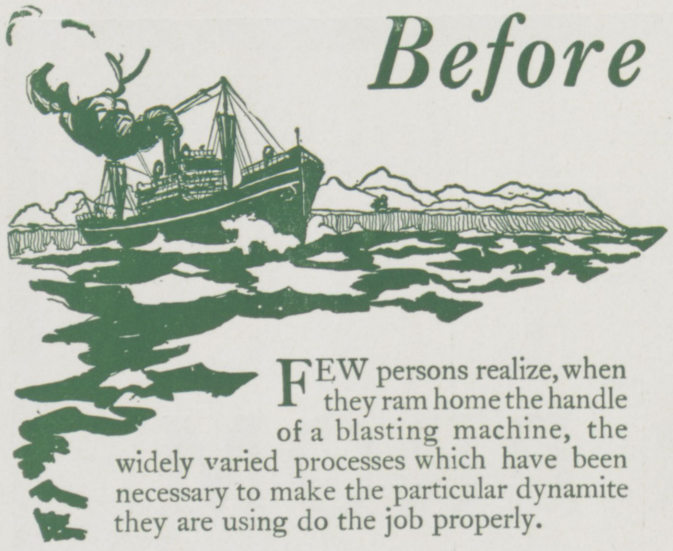
## DON BESTOR CONDUCTING

## Don't Let Someone Else Beat Your Time

## GET THAT DATE EARLY

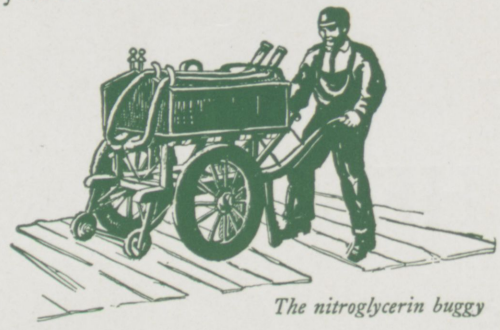
Courtesy of The Rose Technic

# Before the Explosion



FEW persons realize, when they ram home the handle of a blasting machine, the widely varied processes which have been necessary to make the particular dynamite they are using do the job properly.

It is from the vast *sodium nitrate* deposits of Chile that one of the first and most important of the raw materials used in the manufacture of dynamite comes. Ship-loads at a time are delivered to the Hercules Powder Co., with which to make *nitric acid*, the first step in the manufacture of dynamite.



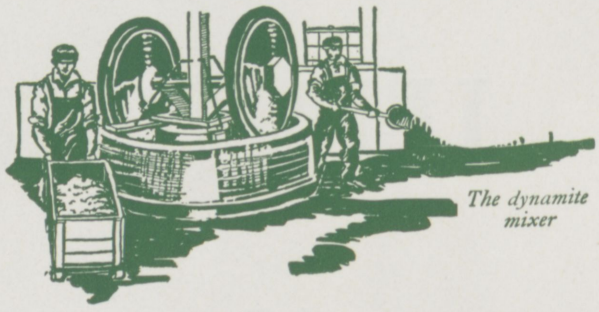
*The nitroglycerin buggy*

This acid is sent to a rubber-lined tub high up in a barricaded house, where glycerin is mixed with it. The result is *nitroglycerin*, the essence of the explosive. But it is such an unstable liquid that it cannot be handled without considerable risk.

To overcome this difficulty the nitroglycerin is taken to the mixing house in a delicately balanced carriage, where it is mixed with flour, sawdust, charcoal or one of several kinds of "dope," which stabilize it. This firm mixture is *dynamite*.

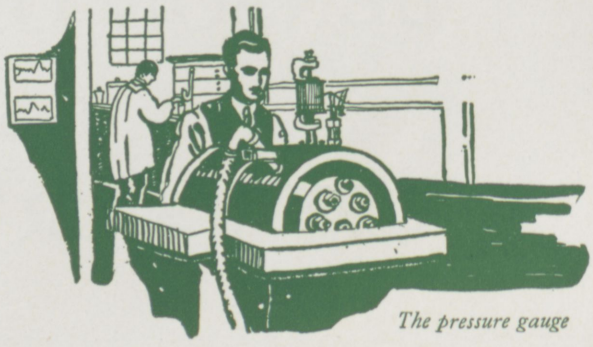
The Hercules Powder Co. has developed the manufacture of dynamite so far beyond what it was in 1867 when first discovered that there is now a Hercules brand for every kind of blasting job.

The Hercules Powder Company Library will gladly furnish you with a bibliography pertaining to any subject connected with explosives in which you are interested. A highly trained technical staff is always ready to co-operate with users of explosives.



*The dynamite mixer*

But the success you will have in your blasting operations depends upon the careful technical supervision of every step of manufacture as the nitrates go "down the line" in the 19 Hercules Plants, the care with which they are tested for each of the characteristics that make them of special value, and upon the scientific selection of an explosive for your particular job.



*The pressure gauge*

* * *

The question of selecting explosives for special work will be taken up in another advertisement in this series.

**Why the Navy Uses Electric Drive for Battleships.**

Although vessels were propelled by electricity as early as 1893, the first important installation of this drive was on the collier Juniper in 1913. Two other colliers were constructed at the same time, one equipped with geared turbines and the other with reciprocating engines. The testing of these three methods of propulsion demonstrated that geared turbines were desirable in the vessels below the capital class, but that electric drive was superior for the vessels of the capital class.

The most important advantage of the electric drive for battleships is the fact that the steam part of the propelling machinery is not connected with the propellers by means of shafting. The turbine generators and auxiliaries can therefore be placed in absolutely watertight compartments, where they receive the maximum amount of protection, while the propeller motors can be so placed that the propeller shafts penetrate the smallest number of bulkheads, reducing to a minimum the danger of flooding in case a ship is struck by torpedoes or shells. There are other advantages of the electric drive as compared with the steam drive. The piping can be given better protection. The propeller shafts being shorter are more reliable. Either turbine generator can be used alone for ordinary cruising speeds permitting repairs on the other one. Excellent economy of operation can be obtained, especially at cruising speeds. Finally, full power, instead of only about half power, can be applied for reversing the propellers. This provides a high degree of maneuvering power that is of immense value under modern war conditions.

Westinghouse Marine Log.

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The great reform at Williams consisted of a curtailment of house parties and proms by some hours and unknown dollars. The following is the legislation on same: "Fraternity house parties at midyear and June parties must end the first night at 2 a. m., and the second night at 3 a. m., while both the senior and the sophomore promenades must end at 4 a. m. In the past, parties and promenades have lasted as late as 7 a. m."

The new University wireless station WHAA at this time is nearing completion and by the time the Transit comes from the press, will undoubtedly be in actual operation. The new towers on the Engineering building extend some 140 feet above the roof and are built of structural steel and galvanized iron. The towers were designed by Prof. B. J. Lambert and the construction of them was under his direction. The radio apparatus has been installed for some little time and has only been waiting for the construction of the towers. It is of Class B 500 watt Western Electric Co., latest type and is under the direction of Carl Menzer, instructor in the Electrical Engineering department, who holds an operator's license. The March or April issue will carry a complete account of all the details of the new station including the towers, apparatus, and special laboratories for broadcasting.

Iowa Transit.

This station is heard regularly in Terre Haute.

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Recent action of the Hamilton College faculty has restricted the operation of cars by the student body to seniors and certain special cases. Evidently four years of college have a sobering effect on the student or else senior studies are so hard that they leave the student little ambition to abuse automobile privileges.

Polytechnic Reporter.

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Purdue asked its students to pledge $60,000 by February 11 to match $20,000 offered toward a "bowl" by the Ross-Ade Foundation.

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Tests on chemical-containing tanks for gasoline are said to reveal a more uniform distribution of vapor pressure, and a consequent marked reduction of leakage.

---

Oberlin College raised $3,036,608 in an endowment drive.

Fordham University is in a state of intense excitement over the Junior Prom. Several kings of Jazz have been signed up for that annual affair. Three of the greatest dance musicians in the United States will furnish the music for the entire evening. Zez Confrey, with a Paul Whiteman orchestra, will furnish music until two o'clock when Paul Whiteman will appear in person along with Brook Johns. The Prom goers will be treated to an unprecedented sight—that of Paul Whiteman playing the violin, Brook Johns the banjo, and Zez Confrey at the piano. The Prom will be held at the Biltmore Hotel on the evening of February 8 and it will last until four o'clock in the morning. The Fordhamites have invited Mayor Hylan to attend the affair.

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Before the celebration of the centennial of portland cement in 1924, alumina cement of American manufacture will have an important place on the American market. Heretofore it has had very little usage in this country, though its value has been realized and quite thoroughly demonstrated. Its use in Europe has been quite extensive for some time. The use of alumina cement has two wide fields, due to two exceptional qualities. One of these is its resistance to chemical attack from alkali and sea waters, and concentrated acids. It resists corrosion due to these substances, and where ordinary cement would soon fail in structure this cement has been found to be very resistant.

—Concrete.

The electrical Engineering Department of the University of Minnesota is almost ready to move into its new building which will provide sufficient space for all laboratories and lecture rooms needed by the department. Particular attention has been given to the design of the building in order that beauty as well as utility may be achieved. The building is divided into two sections, the front portion being used for the lecture rooms and offices while the rear section is devoted to the laboratory. Tall masts on either end provide the terminals for a radio aerial 244 feet long and 144 feet high.

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What is asserted to be the first rubber pavement in the United States has just been laid on a railroad crossing in Racine, Wisconsin, which is subjected to a great amount of heavy traffic and had to be repaired or renewed quite frequently. The pavement is made up of rubber blocks interlocked beneath and individually fastened to a base of wood or concrete. The blocks are made up of old tires and similar discarded rubber goods, which is ground up, properly compounded, and molded separately under high pressure.

Heavy trucks, horses, and all other types of vehicles pass over it as quietly as over a carpet and leave no impression on it whatsoever. It is very resistant to abrasion, and due to this quality and its toughness will last a long time under the most severe conditions of traffic. Although rubber pavement has not been used in this country, its durability has been proven by its use in England. It is claimed by advocates of this form of roadway that it is very economical despite its first cost.

—Literary Digest.

## SHOP LIGHTING.

In an address delivered before the members of the Western Pennsylvania Division of the National Safety Council, Pittsburg, Pa., March, 1918, by C. W. Price, the importance of good lighting in industrial establishments was discussed, and the disadvantages of poor lighting were clearly shown by some figures mentioned by Mr. Price.

A large insurance company analyzed 91,000 accident reports, for the purpose of discovering the causes of these mishaps. It was found that 10% was directly traceable to inadequate lighting and in 13.8% the same cause was a contributory factor. The British Government in a report of the investigation of causes of accidents determined a close parallel to the findings of the insurance company above quoted. The British investigators found that by comparing the four winter months with the four summer months, there were 39.5% more men injured by stumbling and falling in winter than in summer.

Mr. John Calder, a pioneer in safety work, made an investigation of accident statistics covering 80,000 industrial plants. His analysis covered 700 accidental deaths, and of these 45% more occurred during the four winter months than during the four summer months.

Mr. C. L. Eschleman, in a paper published in the proceedings of the American Institute of Electrical Engineers several years ago, reported the result of an investigation of a large number of plants in which efficient lighting had been installed. He found that in such plants as steel mills, where the work is of a coarse nature, efficient lighting increased the total output 2%; in plants, such as textile mills and shoe factories, the output was increased 10%.

In an investigation of the causes of eye fatigue, made by the Industrial Commission of Wisconsin, it was found that in a large percentage of industries, such as shoe, clothing and textile factories, the lack of proper lighting (both natural and artificial) resulted in eye fatigue and loss of efficiency. At one knitting mill, where a girl was doing close work under improper lighting conditions, her efficiency dropped 50% every day during the hours from 2:30 to 5:30 P. M.

The above mentioned incidents indicate how important a factor lighting is in the operation of the industrial plant. It has been well said, "Light is a tool, which increases the efficiency of every tool in the plant." Glare or too much light is as harmful as not enough lighting, and in no case should the eyes of the workers be exposed to direct rays, either of sun or electric light.

Windows and reflectors should always be kept clean; that is, cleaning them at least once a week, for where dust and dirt are allowed to collect, efficiency of the light is decreased as much as 25%.

Good lighting, in addition to its other marked advantages, is a strong incentive towards keeping working places clean, for it clearly exposes any place where dirt or other material has been allowed to collect. White walls and clean windows glazed with Factrolite Glass will eliminate the sun glare and increase the illumination 25 to 50 feet from the window from 38% to 72% as compared with plain glass.

Lighting is of primary importance to every employer and fully warrants a careful investigation of the subject, for there is no substitute for good lighting, and if it is not supplied the efficiency of the entire working force must suffer a serious reduction.

If you are interested in the distribution of light through Factrolite, we will send you a copy of Laboratory Report—"Factrolited."

## THE ENGINEERING SALESMAN*

(Continued from page 5)

And in an engineering business at least it would be hard to exercise good business judgment without having sound engineering knowledge. But a man usually excells in one direction or the other. If your talents and taste lie toward engineering, don't treat them lightly, for it is a great profession, and worthy of any one's ambition if he can excel in it. It is no less true, however, that the occupation of selling requires just as definite qualities of fitness. Your biggest earning power can only be exerted in the kind of work that you best fit.

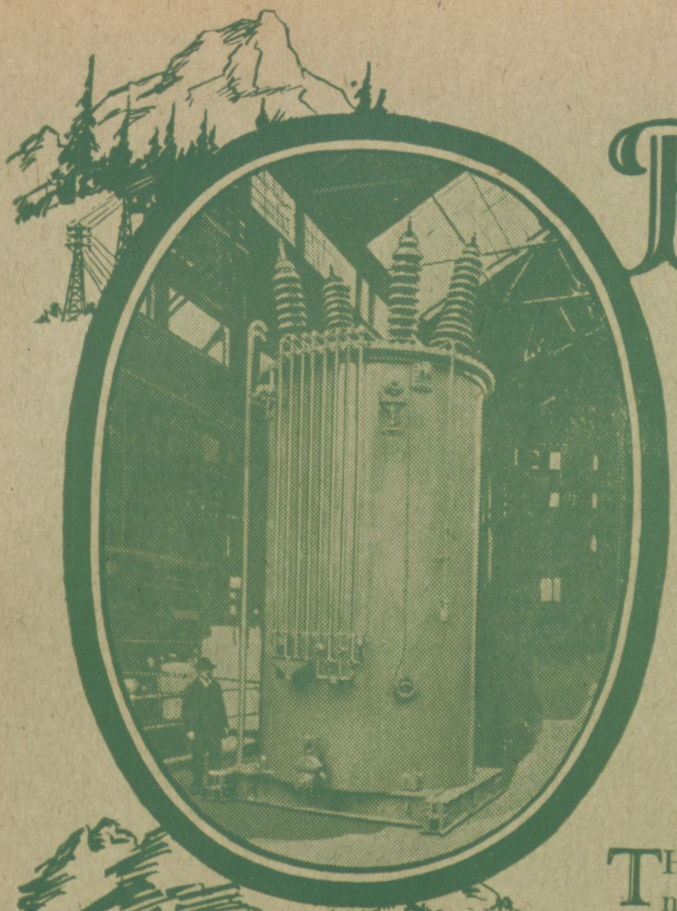


## Ads in This Issue



Patronize Them


Horrible Effect of T. H. I. & E. Service



# Before Alternating Current Dominated the Electrical Industry

*What Engineering Owes to the Far-Sightedness of George Westinghouse*

THE impregnable position now occupied by alternating current was attained only after a bitter struggle, for, due to its supposedly deadly characteristics, practically the entire electrical fraternity once opposed the progress of what was generally referred to as "Westinghouse Current."

Gaulard and Gibbs originated the alternating current system in Europe. Their system was impractical in many respects, but had been used with some success for lighting.

George Westinghouse became interested, and immediately recognized that the weakness of their system lay in the design and principles governing the transformer.

He devoted the resources of his organization to the development of the transformer. When he made it a practical unit, alternating current, with its vast commercial advantages, then became possible.

The beginning of the bitter struggle by George Westinghouse for the supremacy of alternating current goes back to 1885 and 1886. Remarkable progress has been made since then and voltages as high as 220,000 are in commercial use today.

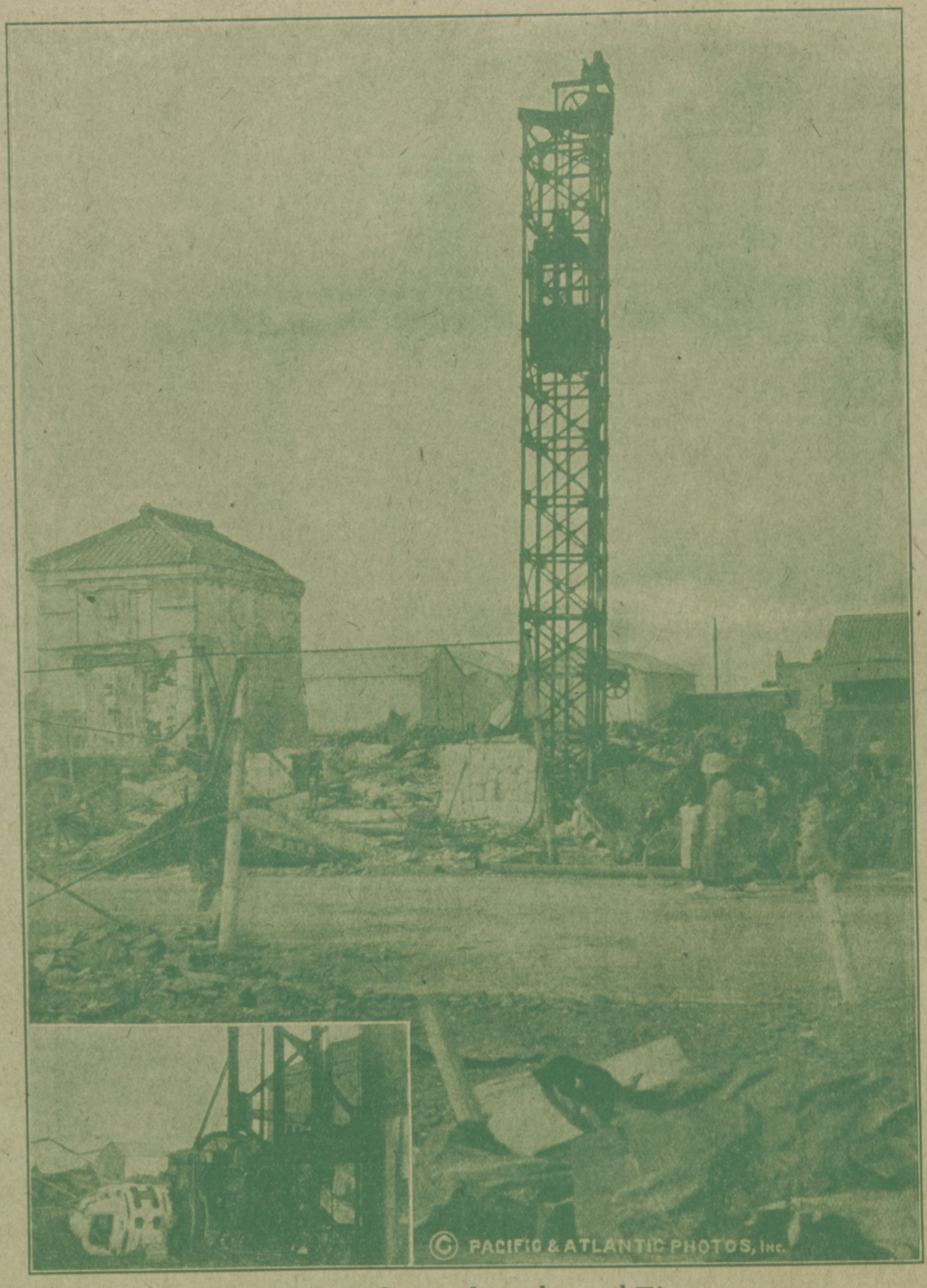
Engineering owes much to the far-sightedness and fighting qualities of George Westinghouse.

*The pathways of power are the highways of progress*

# Westinghouse

## ACHIEVEMENT & OPPORTUNITY

WESTINGHOUSE ELECTRIC




*Through Earthquake and Fire*

This Otis Elevator stands amid the Ruins of the SAGA MIYA DRAPERY STORE in YOKOHAMA

*Engineering Experience of over seventy years in Vertical Transportation is at your Service*

OTIS · ELEVATOR · COMPANY

*Offices in All Principal Cities of the World*